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EXAMINER

BOUTAH, ALINA A

ART UNIT PAPER NUMBER

2143

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/774,906

Applicant(s)

SADJADI, SHAHROKH

Examiner

Alina N Boutah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-30,32-35,37-40 and 42-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 8-30,32-35,37-40 and 42-44 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This action is in response to Applicant's amendment filed July 25, 2005. Claims 8-30, 32-35, 37-40 and 42-44 are pending in the present application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-30, 32-35, 37-40 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,253,236 issued to Troxel et al. (hereinafter referred to as Troxel) in view of USPN 6,493,804 issued to Soltis et al. (hereinafter referred to as Soltis).

(Amended) Regarding claim 8, Troxel teaches a method of controlling use by concurrent users of a distributed resource on a network, wherein use of the resource is limited to a specified maximum number of concurrent users, the method comprising the computer-implemented steps of: providing a lock manager process executing on a host (abstract; col. 1, lines 15-36); associating a user identification for each user with one host (figures 4A-D); and

responding to a request for the resource associated with a first user having a first user identification associated with a first host by requesting a lock from a first local lock manager process executing on the first host (abstract, figure 4D; col. 1, lines 15-36).

However, Troxel does not explicitly teach providing a distributed lock manager process comprising a plurality of local lock manager processes executing on a corresponding plurality of hosts, wherein each of the plurality of local lock manager processes may grant a lock on the same resource; associating a user identification for each user with one host of the plurality of hosts; and responding to a request for the resource associated with a first user having a first user identification associated with a first host of the plurality of hosts by requesting a lock from a first local lock manager process executing on the first host.

Soltis teaches providing a distributed lock manager process comprising a plurality of local lock manager processes executing on a corresponding plurality of hosts (figure 4: clients 105A-N; abstract, col. 2, line 47 to col. 3, line 20), wherein each of the plurality of local lock manager processes may grant a lock on the same resource (abstract, col. 2, line 47 to col. 3, line 20);

associating a user identification for each user with one host of the plurality of hosts (figure 4: clients 105A-N; figures 9 and 10; abstract, col. 2, line 47 to col. 3, line 20);

responding to a request for the resource associated with a first user having a first user identification associated with a first host of the plurality of hosts by requesting a lock from a first local lock manager process executing on the first host (abstract, col. 2, line 47 to col. 3, line 20).

At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teachings of Troxel with the teaching of Soltis in order to provide decentralized control of shared data, therefore maintaining data consistency (col. 3, lines 41-45).

Regarding claim 9, Soltis teaches a method as recited in Claim 8, wherein during said step of associating a user identification with one host, the first user is associated with the first host based on information indicating that the first user signs onto the network most frequently at a terminal node of the network that uses fewer intervening network devices to pass messages to the first host than to any other host of the plurality of hosts (col. 9, lines 42-60).

Regarding claim 10, Soltis teaches a method as recited in Claim 8, wherein during said step of associating a user identification with one host, the first user is associated with the first host based on information indicating that the first user signs onto the network most frequently at a terminal node of the network geographically closer to the first host than to any other of the plurality of hosts (col. 9, lines 42-60).

Regarding claim 11, Troxel teaches a method as recited in Claim 8, wherein each local lock manager process maintains a lock data structure associated with the resource and the lock data structure includes a local resource maximum field (abstract); and further comprising the steps of generating and storing a value in the local resource maximum field maintained by each local lock manager process such that a summation over all the local lock manager process of the

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value in the local resource maximum field does not exceed the maximum number of concurrent users (col. 5, lines 20-41).

Regarding claim 12, Troxel teaches a method as recited in Claim 11, wherein a first value in the local resource maximum field maintained by the first local lock manager process is based on a number of users associated with the first host (col. 5, lines 20-41).

Regarding claim 13, Soltis teaches a method as recited in Claim 8, wherein a copy of the distributed resource resides on a host of the plurality of hosts (col. 9, lines 29-41).

Regarding claim 14, Soltis teaches a method as recited in Claim 8, wherein a copy of the distributed resource resides on a computing device that is not among the plurality of hosts (col. 9, lines 29-41).

Regarding claim 15, Troxel teaches a method as recited in Claim 11, further comprising: determining whether a number of outstanding locks granted by the first local lock manager process is less than a particular value stored in the local resource maximum field maintained by the first local lock manager process; and if the number of outstanding locks is less than the particular value, then generating and returning a lock object (col. 5, lines 20-41).

Regarding claim 16, Troxel teaches a method of controlling concurrent users of a distributed resource on a network, the resource limited to a maximum number of concurrent users, the method comprising the computer-implemented steps of:

receiving a request for the distributed resource from a client process for a user having a user identification (figure 4D);

determining a home location associated with the user identification (abstract; col. 1, lines 56-66);

sending a request for a lock object for the distributed resource to a first local lock manager process of the distributed lock manager process, the request including the home location (col. 1, lines 36-41);

receiving the lock object for the distributed resource from a lock manager process executing on the host, if a number of outstanding locks granted by the local lock manager process is less than a value of a local resource maximum determined for the second local lock manager process (col. 5, lines 20-41); and

providing access to the resource to the first client only in response to receiving the lock object (abstract; figure 4D; col. 5, lines 20-41).

However, Troxel fails to teach the home location indicating a unique host among a plurality of hosts that execute a corresponding plurality of local lock manager processes of a distributed lock manager process, wherein each of the plurality of local lock manager processes may grant a lock on the same resource.

Soltis teaches the home location indicating a unique host among a plurality of hosts that execute a corresponding plurality of local lock manager processes of a distributed lock manager

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process (figure 4: clients 105A-N, abstract, col. 2, line 47 to col. 3, line 20), and wherein each of the plurality of local lock manager processes may grant a lock on the same resource (abstract, col. 2, line 47 to col. 3, line 20).

At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teachings of Troxel with the teaching of Soltis in order to provide decentralized control of shared data, therefore maintaining data consistency (col. 3, lines 41-45).

Regarding claim 17, Soltis teaches a method as recited in Claim 16, wherein a first host on which the first local lock manager process executes is different from the unique host on which the second local lock manager process executes (figure 4).

Regarding claim 18, Soltis teaches a method as recited in Claim 16, wherein a first host on which the first local lock manager process is executing is in a local network with a computing device on which the client process is executing (figure 4).

Regarding claim 19, Soltis teaches a method as recited in Claim 16, further comprising the steps of determining whether a request from the client process to set the retry time period has been received, and if so, automatically repeating the steps of determining, sending, receiving and providing (abstract).

Claim 20 is similar to claim 16 therefore is also rejected under the same rationale.

Regarding claim 21, Troxel teaches a method as recited in Claim 20, further comprising the steps of: when the second lock manager process is not associated with the particular home location, determining whether a first number of outstanding locks granted by the first local lock manager process for the distributed resource is less than a first local maximum number of users no greater than the maximum number of concurrent users, and if so, then incrementing the first number of outstanding locks granted and providing the lock object to the resource server (col. 5, lines 20-41).

Regarding claim 22, Troxel teaches a method as recited in Claim 20, wherein each local lock manager process of the distributed lock manager process stores a corresponding local maximum number of users for the distributed resource in a lock data structure associated with the local lock manager process, and an aggregate of local maximum numbers in lock data structures associated with all lock manager processes in the distributed lock manager process for the distributed resource is no greater than the maximum number of concurrent users to which the distributed resource is limited (col. 5, lines 20-41).

Regarding claim 23, Troxel teaches a method as recited in Claim 20, further comprising the steps of: receiving a request for a lock object from a third local lock manager process of the distributed lock manager process in response to a request from a second resource server; determining whether a first number of outstanding locks granted by the first look manager process for the distributed resource is less than a first local maximum number of users no greater than the maximum number of concurrent users; and if it is determined the first number of

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outstanding locks granted is less than the first local maximum number, then incrementing the first number of outstanding locks granted, and providing the lock object for the second resource server (col. 5, lines 20-41).

Regarding claim 24, Troxel teaches a method as recited in Claim 20, further comprising the step of providing the lock object to the resource server in response to receiving the lock object from the second lock manager process (col. 5, lines 20-41).

Regarding claim 25, Troxel teaches a method of distributing a resource on a network, the resource limited to a maximum number of concurrent users, the method comprising the steps of:

providing a distributed lock manager executing on a corresponding host (abstract; col. 1, lines 15-36); and

generating a value for a local resource maximum number of users stored on the host such that a summation of the value for the local resource maximum yields an aggregate value that does not exceed the maximum number of concurrent users (abstract; figure 4D; col. 1, lines 15-36).

However, Troxel does not teach providing a distributed lock manager process comprising a plurality of local lock manager processes executing on a corresponding plurality of hosts, wherein each of the plurality of local lock manager processes may grant a lock on the same resource; determining whether to increase a first value in a first resource maximum stored on a first host; and if it is determined to increase the first resource minimum, then decreasing by a particular amount a second value in a second resource maximum stored on a second host of the

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plurality of hosts, and increasing by the particular amount the first value in the first resource maximum stored on the first host, wherein each local lock manager process is configured to grant a lock for the resource if the number of outstanding locks granted by the local lock manager process is less than a value of the local resource maximum stored on the corresponding host.

Soltis teaches providing a distributed lock manager process comprising a plurality of local lock manager processes executing on a corresponding plurality of hosts, wherein each of the plurality of local lock manager processes may grant a lock on the same resource (abstract, col. 2, line 47 to col. 3, line 20); determining whether to increase a first value in a first resource maximum stored on a first host; and if it is determined to increase the first resource minimum, then decreasing by a particular amount a second value in a second resource maximum stored on a second host of the plurality of hosts, and increasing by the particular amount the first value in the first resource maximum stored on the first host, wherein each local lock manager process is configured to grant a lock for the resource if the number of outstanding locks granted by the local lock manager process is less than a value of the local resource maximum stored on the corresponding host (figure 4: clients 105A-N).

At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the teachings of Troxel with the teaching of Soltis in order to provide decentralized control of shared data, therefore maintaining data consistency (col. 3, lines 41-45).

Regarding claim 26, Soltis teaches A method as recited in Claim 25, said step of determining whether to increase the first value further comprising determining the time of day and the geographic location served by the first host (col. 9, lines 42-60).

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Regarding claim 27, Soltis teaches a method as recited in Claim 25, said step of determining whether to increase the first value further comprising determining whether a difference between the number of outstanding locks granted and the first value is less than a first predetermined threshold (col. 9, lines 42-60).

Regarding claim 28, Soltis teaches a method as recited in Claim 25, further comprising, if it is determined to increase the first value, then determining whether to decrease the value based on a whether a difference between the number of outstanding locks granted and the second value is greater than a second predetermined threshold (col. 9, lines 42-60).

Regarding claim 29, Soltis teaches a method as recited in Claim 28, wherein the particular amount is based on the second predetermined threshold (col. 9, lines 42-60).

Regarding claim 30, Soltis teaches a method as recited in Claim 29, wherein the particular amount is no greater than the second predetermined threshold (col. 9, lines 42-60).

Claim 32 is similar to claim 8 therefore is rejected under the same rationale.

Claim 33 is similar to claim 16 therefore is also rejected under the same rationale.

Claims 34, 35, 37-39, 40 and 42-44 are similar to claim 25 therefore are also rejected under the same rationale.

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive. In response to Applicant's argument that Troxel lacks any suggestion of a distributed lock manager process comprising a plurality of local lock manager process, the Patent Office respectfully submits that is taught in a combination of Troxel and Soltis. As cited above, Soltis teaches a plurality of clients which may access one or more resources on a global file system (figure 1, col. 5, lines 25-45). The plurality of clients, in this case, is interpreted as plurality of lock manager process since they have control access to the resource.

In response to Applicant's argument that Soltis fails to teach associating a user identification that associates users with hosts or a local lock manager process that may grant a lock on the same resource, the Patent Office respectfully directs Applicant to abstract, as well as col. 2, line 47 to col. 3, line 63 of Soltis. Specifically, the cited area discloses a client that uses a storage blocks (interpreted as a "resource") by acquiring a lock for shared or exclusive use (abstract and col. 2, lines 54-56). By sharing, one of ordinary skill in the art may decipher this as granting a lock on the same resource to others. As for the "associating a user identification," the PTO respectfully directs Applicant to the same cited area. In this case, "version counter" is interpreted as associating users with host or a local lock manager because it contains names list of client that have acquired the lock (col. 2, lines 62-63; figures 9 and 10). One of ordinary skill in the art would have recognized that in order for a user to possess a lock, its identification must be associated with the lock.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

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teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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